

REMARKS/ARGUMENTS

At the outset, Applicant appreciates the thorough review and consideration of the subject application. The Office Action of December 10, 2009 has been received and its contents carefully noted. By this Response, no claims have been amended. No claims are currently canceled and no new claims are added. Accordingly, claims 1 - 17 and 19 remain pending in the application.

In view of the following remarks, Applicant respectfully requests reconsideration and timely withdrawal of the pending objections and rejections for the reasons discussed below.

Allowed/Allowable Claims

The Office Action indicates that claims 3 - 7 and 9 - 14 are allowed and claims 2, 8, 16 and 17 are objected to but allowable if presented in independent form.

Rejections Under 35 U.S.C. § 103

Claims 1, 15 and 19 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over U.S. Patent Application Publication No. 2003/0099216 by Nilsson, et al. ("Nilsson") in view of U.S. Patent No. 6,385,185 issued to Huang, ("Huang") and further in view of U.S. Patent No. 5,533,067 issued to Jamal, *et al.* (Jamal). Applicant respectfully traverses this rejection for at least the following reasons.

Independent claim 1 is allowable as it recites a combination of features including, *inter alia*,

providing channel estimation in a multipath
environment to acquire a beamforming complex factor,

wherein the providing step comprises modeling said propagation channels in the receiver as a linear superposition of a finite number of discrete multipath components ($p=1, \dots, P$) following an uncorrelated-scattering wide-sense stationary model, and

wherein a multipath component is characterized by a time-varying multipath complex coefficient ($c_p(t)$ and $\beta_p c_p(t)$) and a delay (τ_p). (emphasis added).

The Examiner admits that neither Nilsson nor Huang teach or suggest these features. To alleviate this deficiency of Nilsson, the rejection relies upon Jamal at col. 6, ll. 51-67, col. 11, ll. 42-63, col. 17, ll. 61-67, and col. 18, ll. 1-5. Applicant respectfully traverses the rejection as not complying with 35 U.S.C. § 132 due to lack of sufficient detail. *See also*, 37 CFR § 1.104 (stating "[t]he pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified") and M.P.E.P. § 706.02(j) (stating "[i]t is important for an examiner to properly communicate the basis for a rejection so that the issues can be identified early and the applicant can be given fair opportunity to reply.")

Applicant respectfully traverses the application of Jamal (to the extent this rejection is understood) as being materially deficient. Claim 1 is directed towards a linear super-position of discrete multi-path components following an uncorrelated-scattering wide-sense stationary model. *See* paragraph [0026]. The time-varying multipath complex coefficients $c_p(t)$, $\beta_p c_p(t)$ and delay (τ_p) are set forth in the specification at paragraph. *See e.g.*, paragraph [0029].

In addition, Applicant respectfully traverses the rejection as being materially deficient as the current rejection admits that Nilsson fails to teach or suggest providing channel estimation wherein channel propagation is modeled using a linear superposition of a finite number of discrete multi-path components following an uncorrelated-scattering wide-sense stationary model. To alleviate this deficiency of

Nilsson, the rejection turns to Huang. However, Huang describes at column 5, line 39 through column 7, line 25, channel estimation via use of matched filters. Such a process assumes a stationary window using a weighted average. The present invention however uses and claims linear super-position of discrete multi-path components following an uncorrelated-scattering wide-sense stationary model. As described in paragraph [0026] of the specification. The estimation process taught by Huang is a correlated conventional method using equally weighted averaging. See column 5, line 44 and column 5, line 64. Not only does the cited text in Huang not teach or suggest the invention, but one skilled in relevant art would not turn to Huang to resolve the inadequacy of Nilsson. While Huang teaches a means of channel estimation, the Huang methodology is dissimilar from that claimed by the Applicant.

According to the claimed embodiments of the present invention, in the presence of transmit beamforming, each multi-path component coefficient of the DPCH channel differs from the corresponding multi-path coefficient of the CPICH channel by an unknown complex scale factor. The present invention provides an estimate for this complex scale factor. Independent claim 15 is allowable for similar reasons as discussed herein.

Accordingly, Applicant respectfully requests withdrawal of the 35 U.S.C. § 103(a) rejection of claims 1, 15 and 19.

CONCLUSION

Applicant believes that a full and complete response has been made to the pending Office Action and respectfully submits that all of the stated objections and grounds for rejection have been overcome or rendered moot. Accordingly, Applicant respectfully submits that all pending claims are allowable and that the application is in condition for allowance.

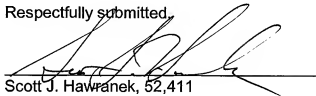
Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact the Applicant's undersigned representative at the number below to expedite prosecution.

Prompt and favorable consideration of this Reply is respectfully requested.

No fee is believed due for this submittal. However, any fee deficiency associated with this submittal may be charged to Deposit Account No. 50-1123.

S/Z, 20 10

Respectfully submitted,



Scott J. Hawranek, 52,411
Hogan & Hartson LLP
One Tabor Center
1200 17th Street, Suite 1500
Denver, Colorado 80202
(719) 448-5920 Tel
(303) 899-7333 Fax